FEASIBILITY OF IMPLEMENTING DIGITAL TERRESTRIAL TELEVISION BROADCASITNG IN DEVELOPING COUNTRIES

THE CASE OF SRI LANKA

MASTER OF BUSINESS ADMINISTRATION
IN
MANAGEMENT OF TECHNOLOGY

WICKRAMANAYAKE C.

DEPARTMENT OF MANAGEMENT OF TECHNOLOGY
UNIVERSITY OF MORATUWA

29TH DECEMBER 2006

FEASIBILITY OF IMPLEMENTING DIGITAL TERRESTRIAL TELEVISION BROADCASITNG IN DEVELOPING COUNTRIES

THE CASE OF SRI LANKA

By

Wickramanayake C.

Supervised by

Dr. S.W.S.B. Dassanayake
Mr. Kithsiri Samarasinghe

The dissertation is submitted to the department of Management of Technology of the University of Moratuwa in partial fulfillment of the requirements for the Degree of MBA in Technology Management

DEPARTMENT OF MANAGEMENT OF TECHNOLOGY
UNIVERSITY OF MORATUWA

29TH DECEMBER 2006

ABSTRACT

The advancements in technology are changing the whole world at a rapid pace. The development of terrestrial television broadcasting technology in the digital era has changed the way we view the television and how we use the television. In other continents of the world all analogue terrestrial broadcasters are rushing towards implementation of digital terrestrial television broadcasting (DTTB) technologies, as their respective governments have made a decision to switch off analogue broadcasting. Hence the whole world is facing to digital switchover and Sri Lanka will have to implement DTTB in-order to be competitive in the world.

Therefore it is important to find out about new developments in television broadcasting technology and the actions taken for implementation. To implement DTTB in Sri Lanka first the current situation has to be analyzed. The county needs to find out the best choice of technology and must formulate implementation strategies and guidelines. This research was conducted to find answers to the above facts as objectives.

Through the extensive literature survey carried out, the development of terrestrial television broadcasting technologies and the adoption methods in other countries were found out. Using the model for process and product technology by Ramanathan (2004) the assessment of level of technology of Sri Lankan broadcasting organizations was carried out through analysis of data collected by questionnaire method. The technology assessment criteria by Nawaz Sharif (1997) were used to assess the DTTB technologies by the participation of industry experts. In identifying the barriers to upgrade the television broadcasting technology, interviews were carried out among industry experts. Social factors were identified by distributing a questionnaire among the general public within the Colombo city.

The main aim of this study is to develop strategies and guidelines to upgrade the television broadcasting technology of Sri Lanka and overcome the barriers identified. Further research areas to be conducted in-order to encompass a successful completion of the digital switchover are also discussed.

ACKNOWLEDGEMENT

I would like to convey my greatest gratitude to Dr. Sarath Dassanayake and Mr. Kithisiri Samarasinghe of University of Moratuwa for supervising, guiding and advising in conducting this research throughout. The support given to me was enormous despite their busy work schedules.

I must appreciate and convey my gratitude to all the industry experts of the Sri Lankan broadcasting organizations for giving me the opportunity and time despite of their busy work schedules for data collection and imparting valuable information. Special appreciation must be conveyed to Mr.N. P. K. Ratnapala, the assistant director monitoring and broadcasting services of Telecommunication Regulatory Commission (TRC) of Sri Lanaka for the support and information given.

I would like to convey my special thanks to all friends and the colleagues of Ruhuna 2001 Multivision (Pvt.) Ltd. to the support given in collecting data from the general public.

I would like to express my gratitude to my beloved father and mother who supported and encouraged me to complete this study.

Finally I would like to thank my fellow batch mates for making me comfortable through peer support and by sharing their experiences and expertise.

Chaminda Wickramanayake

CONTENTS

Chapter 04: DATA ANALYSIS

Chapter 05: RESEARCH FINDINGS

Chapter 06: CONCLUSIONS AND RECOMMENDATIONS

LIST OF TABLES

LIST OF FIGURES

ABBREVATIONS

ATM	Automated Teller Machine
ATSC	Advanced Television Systems Committee
C/N	Carrier to Noise Ratio
CVD	Core Value Determinants
DAB	Digital Audio Broadcasting
dbi	design back-up inforware
DBS	Direct Broadcasting by Satellite
dfi	design foundation inforware
dsi	design specifications inforware
DTI	Department of Trade and Industry
DTT	Digital Terrestrial Television
DTTB	Digital Terrestrial Television Broadcasting
DTV	Digital Television
DTV-T	Digital Terrestrial Television
DVB-C	Digital Video Broadcasting - Cable
DVB	Digital Video Broadcasting
DVB-S	Digital Video Broadcasting - Satellite
DVB-T	Digital Video Broadcasting - Terrestrial
DVD	Digital Video Disk
EIA	Environmental Impact Analysis
FCC	Federal Communication Commission
FTA	Free To Air
hbi	Humanware back-up inforware
HDTV	High Definition Television
hfi	Humanware foundation inforware
HIS	Humanware Specific Inforware
IDTV	Interactive Digital Television
ISDB	Integrated Services Digital Broadcasting
ISDB-T	Integrate Services Digital Broadcasting -Terrestrial
ISO	International Standards Organization
IT	Information Technology
ITT	International Technology Transfer
ITU	International Telecommunications Union
ITV	Interactive Television
IUTC	Inter-Union Technical Committee
MAC	Multiplex Analogue Component
MMDS	Microwave Multichannel Distribution System
MPEG	Moving Picture Expert Group
obi	orgaware back-up inforware
oei	orgaware enhancing inforware
OFDM	Orthogonal Frequency Division Multiplexing
OSI	Orgaware Specific Inforware
PC	Personal Computer
PDI	Product Design Inforware
poi	product operating inforware
ppi	product performance enhancing inforware
PUI	Product Usage Inforware

QAM	Quadruple Amplitude Modulation
QPSK	Quadruple Phase Shift Keying
SFN	Single Frequency Networks
STB	Set Top Box
TA	Technology Assessment
tai	Technoware Attribute Inforware
tdi	Technoware design inforware
TG	Tasks Group
tmi	Technoware Maintenance Inforware
toi	tecnoware operating inforware
tpi	Technoware Performance Enhancing Inforware
TRC	Telecommunication Regulatory Commission
TSI	Technoware Specific Inforware
TT	Technology Transfer
TV	Television
UHF	Ultra High Frequency
UK	United Kingdom
US	United States
VCD	Video Compact Disk
VHF	Very High Frequency